

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-5. (cancelled)

6. (original) A method of reducing the alcohol content of an alcohol containing beverage including the steps of

(i) processing the beverage by reverse osmosis or nanofiltration for producing a retentate and a raw permeate which includes alcohol;

(ii) contacting a first side of an hydrophobic microporous membrane with said raw permeate;

(iii) contacting a second side of the membrane with a strip solution to extract alcohol therefrom to form a dealcoholised permeate; and

(iv) combining the retentate with the dealcoholised permeate to form a dealcoholised beverage which has an alcohol content lower than that of the beverage.

7. (Previously Presented) A method as claimed in claim 6 wherein the strip solution and/or the raw permeate is or are heated to a temperature which is higher than that of the beverage prior to contacting the strip solution with the membrane.

8. (Previously Presented) A method as claimed in claim 7 wherein the temperature of the strip solution and/or the raw permeate is or are in the range 45° to 55 °C prior to contacting the membrane.

9. (cancelled)

10. (previously presented) A method as claimed in claim 6 wherein the beverage includes volatile components and wherein the membrane is selected so that substantially all the volatile components remain in said retentate.

11. (previously presented) A method as claimed in claim 6 wherein the beverage is wine.

12. (previously presented) A method as claimed in claim 6 wherein the strip solution is water.

13. (Previously Presented) A method as claimed in claim 12 wherein carbon dioxide and/or oxygen is removed from the water prior to contacting the membrane.

14. (previously presented) A method as claimed in claim 12 wherein carbon dioxide and/or oxygen is removed from the raw permeate prior to contacting the membrane.

15. (Previously Presented) A method as claimed in claim 6 wherein the raw permeate has an alcohol content in a predetermined percentage range and after contacting the membrane the dealcoholised permeate has an alcohol content in a range which is substantially lower than that of the raw permeate.

16. (original) A method as claimed in claim 15 wherein the alcohol content of the dealcoholised permeate is in the range 3% to 6% of volume.

17. (previously presented) A method as claimed in claim 15 wherein the alcohol content of the dealcoholised beverage is 0.5% to 1.5% lower than that of the beverage.

18. (cancelled)

19. (Previously Presented) A method as claimed in claim 18 wherein the method includes the steps of determining if the alcohol content of the dealcoholised beverage is at or below a predetermined level and continuing to perform steps (i) to (iv) while the alcohol content of the dealcoholised beverage is above said predetermined level.

20. (Previously Presented) Apparatus for reducing the alcohol content of an alcohol containing beverage, the apparatus including:

(i) a first processing stage having a reverse osmosis unit or nanofiltration unit having a retentate outlet and permeate outlet;

(ii) a pump for supplying beverage to be treated under pressure to the first processing stage whereby retentate is produced at the retentate outlet and raw permeate containing alcohol is produced at the permeate outlet;

(iii) a second processing stage which includes at least one hydrophobic microporous membrane, the second processing stage having [[an]] a first inlet for receiving said raw permeate and a second inlet for receiving a strip solution, the membrane being operable to allow alcohol from the raw permeate to pass therethrough to the strip solution to thereby remove at least a portion of the alcohol from the raw permeate so as to produce dealcoholised permeate at an outlet of the second processing stage; and

(iv) means for combining said dealcoholised permeate with said retentate to thereby produce dealcoholised beverage in which the alcoholic content thereof is lower than that of the beverage.

21. (Currently Amended) Apparatus as claimed in claim 20 wherein the second processing stage includes at least one contactor within which said membrane is located and wherein the contactor includes said first and second inlets and first and second outlets, the arrangement being such that the strip solution contacts the membrane on the side opposite to that contacted by the raw permeate.

22. (original) Apparatus as claimed in claim 21 including pumping means for pumping the strip solution through said at least one contactor.

23. (original) Apparatus as claimed in claim 22 including heating means for heating the strip solution prior to passing through said at least one contactor.

24. (original) Apparatus as claimed in claim 23 including a heat exchanger for heating the raw permeate prior to passing through said at least one contactor.

25. (previously presented) Apparatus as claimed in claim 24 wherein the heat exchanger is arranged to extract heat from the dealcoholised beverage.

26. (previously presented) Apparatus as claimed in claim 21 including degassing means for degassing the strip solution prior to passing through said at least one contactor.

27. (original) Apparatus as claimed in claim 26 wherein the degassing means removes oxygen and/or carbon dioxide from the strip solution.

28. (previously presented) Apparatus as claimed in claim 21 including second degassing means for degassing the raw permeate prior to passing through said at least one contactor.

29. (Previously Presented) Apparatus as claimed in claim 28 wherein the second degassing means removes oxygen and/or carbon dioxide from the raw permeate.

30. (previously presented) A dealcoholised beverage made by the method claimed in claim 1.

31. (previously presented) A dealcoholised beverage made by the apparatus of claim 20.

32. (Previously Presented) Apparatus as claimed in claim 20 including a container for storing said alcohol containing beverage and wherein the apparatus includes a return line for returning the retentate and dealcoholised permeate to the container.

33. (Previously Presented) A method as claimed in claim 6 including the steps of storing the beverage in a container and wherein the step of combining the retentate with the dealcoholised permeate is effected by returning the retentate and dealcoholised permeate to the container.

34. (Previously Presented) A method as claimed in claim 33 wherein the retentate and dealcoholised permeate are mixed together prior to being returned to the container.